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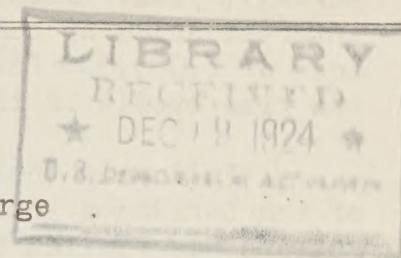
MONTHLY LETTER OF THE BUREAU OF ENTOMOLOGY  
UNITED STATES DEPARTMENT OF AGRICULTURE

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FOREST INSECT INVESTIGATIONS

F. C. Craighead, Entomologist, in Charge



In early November Dr. J. M. Swaine, Associate Dominion Entomologist of Canada, and Dr. Craighead spent two days at Tallulah, La., observing some of the airplane dusting of cotton. Mr. Coad demonstrated the use of airplanes over cotton fields and forested areas. The possibility of using these machines in forest insect control work seems assured in cases where the value of the timber justifies the expense. It is hoped that within another year it will be possible to test this method of dusting on a large scale over forested areas.

Since the publication of "Tests of Methods of Protecting Woods Against Termites or White Ants--A progress report", two inspections have been made of the treated stakes at the experimental lot at Falls Church, Va., namely, on October 30, 1923, and on November 13, 1924. By 1923 all of the superficial methods of preservation by brushing or dipping under test since 1912 had failed; brushing--3 coats applied hot -- was more effective than dipping, and coal-tar creosote and carbolineum were more effective than wood creosote. The more permanent impregnation treatments are still under test. There is some evidence that a creosote oil with a high naphthalene and normal tar-acid content is more effective than the reverse. The empty cell impregnation process does not appear to be as effective as the full cell, and coal-tar creosote is more effective than wood creosote.

R. A. St. George returned November 3 from a two weeks' trip in the South. On October 20 he visited the office of Mr. Johnson, Forester of the Great Southern Lumber Company, Bogalusa, La., to discuss problems relating to insects which affect seedlings in the nursery. A visit to the mill of this company revealed the progress this concern is making in solving problems relating to the utilization of waste material. Waste is almost entirely eliminated here. Pieces of wood are resawed and used in the making of laths, broom handles, box wood, and paper pulp. Sawdust from the saws and planes is used for fuel. The company owns and operates a paper mill, making wrapping paper and paper bags from the wood pulp. By a good system of forest management the woods are kept clean. The tops of the trees are sold to charcoal burners, who leave nothing behind, thus avoiding injury by insects and the danger of forest fires.

On October 21 Mr. St. George presented a paper entitled, "The Southern Pine Beetle and other Insect Enemies of the Southern Forests" before the fourteenth annual meeting of the Southern Logging Association, held in the St. Charles Hotel, New Orleans, La. The paper was supplemented by an exhibit of specimens and photographs of insect work. In addition to the paper he showed the

Bureau's film, "Fighting Western Pine Beetles," which caused considerable interest and many comments. One lumber company in Alabama reported a loss of 5,000,000 feet of pine through the destructive work of the southern pine beetle in 1923.

Following the meeting above mentioned, the Bureau's laboratory of the Deciduous Fruit and Tropical and Subtropical Fruit Insect Investigations was visited by Mr. St. George in company with W. D. Whitcomb. Some very interesting work is being done there relating to the biology and control of the camphor scale.

From October 23 to 30 Mr. St. George spent considerable time in the vicinity of Vicksburg, Miss., at the logging operations of the Houston Brothers Lumber Company, where cooperative experiments were being conducted to determine the best time of the year to deaden cypress.

In the Monthly Letter for last July mention was made of a series of motion pictures taken under Mr. St. George's supervision, showing methods of handling pine to prevent worm-hole injury, cutting cypress to prevent borer attack, and other work of the kind. The series has now been completed with scenes taken at Vicksburg, Miss., and Owensboro, Ky.

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#### SOUTHERN FIELD CROP INSECT INVESTIGATIONS

J. L. Webb, Associate Entomologist, Acting in Charge

W. E. Dove, who has been collaborating with Dr. J. L. Kirby-Smith of Jacksonville, Fla., in an investigation of the causative agent of a creeping eruption on the skin of human beings, is now in Washington and is collaborating with Dr. G. F. White in a study of microscopic material. It is strongly suspected that the causative agent is a mite.

B. R. Coad, Elmer Johnson, and F. W. McDuff, of the Boll Weevil Field Station at Tallulah, La., visited Washington during the month to confer with various officials in regard to phases of the work of the field station.

Plans are being formulated at the Sugarcane Insect Field Station in New Orleans for the operation of an isolated sugar plantation next season under direction of Bureau agents. Experiments in control of the sugarcane moth-borer are to be conducted.

## TRUCK CROP INSECT INVESTIGATIONS

J. E. Graf, Entomologist, in Charge

Corwin F. Stahl, who has been connected with this division for 13 years, resigned November 26, 1924, to accept a position with the Tropical Research Foundation in Cuba, where he will investigate the transmission of sugar-cane diseases by insects. During the time that Mr. Stahl was connected with the Bureau of Entomology he was engaged on a study of the sugar-beet leafhopper and its relation to the curly-leaf disease of sugar beets. This work was conducted at Jerome, Idaho, and at Spreckels and Riverside, Calif. During much of this time Mr. Stahl was cooperating with the Bureau of Plant Industry. Mr. Stahl has been the joint author of several publications which have added materially to our knowledge of the biology and habits of the sugar-beet leafhopper, as well as of its relationship to the transmission of curly-leaf or curly-top. These have appeared in the Journal of Agricultural Research and in Phytopathology. Mr. Stahl's past training and experience will undoubtedly make him well qualified to undertake his present work. He has been appointed a collaborator in order that he may keep this division informed regarding incidental observations in Cuba in connection with the occurrence of vegetable pests.

B. L. Boyden, Associate Entomologist in charge of the sweet-potato weevil work in Florida, reports that the fall inspection in the Baker-Charlton area has just been completed. This district comprises the earliest test area in sweet-potato weevil eradication, and the results there to date have been especially promising. During the season just closed no stages of the sweet-potato weevil were found on any of the farms, though on one place suspicious feeding marks were noted.

K. L. Cockerham, Associate Entomologist in charge of the sweet-potato weevil work in Mississippi, reports that on the nights of November 24 and 25 the temperature reached 32 degrees F. in southern Mississippi, and killed sweet-potato vines. This cool wave will undoubtedly hasten the sweet-potato harvest, and by killing many parts of the plants above the ground should aid materially in the campaign under way in that State for the eradication of the sweet-potato weevil.

R. E. Campbell, Associate Entomologist, Alhambra, Calif., attended a conference of California officials held at Sacramento, where plans were discussed relative to the possibility of a quarantine against the Colorado potato beetle.

W. A. Thomas, Junior Entomologist, Chadbourn, N. C., visited Charleston, S. C., to plan some experimental work on the control of AEOLUS dorsalis Sav, the wireworm injurious to spinach in that vicinity. In this experiment Mr. Thomas is working with both repellents and soil fumigants.

This division is planning a contribution to the entomological exhibit arranged for the Christmas meetings of the American Association of Economic

Entomologists. The sweet-potato weevil, Mexican bean beetle, pea aphid, and Australian tomato weevil will probably be among the insects shown at the exhibit. Equipment for the control of various pests will also be exhibited.

C. H. Popenoe, Associate Entomologist, is taking graduate work at the University of Maryland, College Park, Md., specializing in organic and physical chemistry with particular reference to their application to insecticides.

Norman Allen, Junior Entomologist, connected with the Baton Rouge, La., laboratory of this division, and working under the direction of C. E. Smith, has registered for graduate work at the University of Louisiana.

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#### CEREAL AND FORAGE INSECT INVESTIGATIONS

G. A. Dean, Senior Entomologist, in Charge

L. H. Worthley, in charge of the European corn borer control work, was in Ohio, Michigan, and New York from November 17 to 22, for the purpose of conferring with State officials and planning the work for next year.

Geo. G. Ainslie, in charge of the Knoxville, Tenn., laboratory, was in Cincinnati November 11 to confer with W. H. Larrimer concerning the Hessian fly investigations.

D. J. Caffrey, in charge of the European corn borer laboratory at Arlington, Mass., was at Guelph, Ontario, November 27 and 28, to attend the meetings of the Ontario Entomological Society and conferences of the European corn borer workers.

Prof. Geo. A. Dean visited the Carlisle, Pa., laboratory November 22 to 24 to confer with Messrs. Myers, Hill, and Smith, who are engaged in the Hessian fly parasite investigations. He was very much impressed by the fundamental studies by the men at this laboratory.

K. W. Babcock, who has been making ecological studies of the European corn borer in Hungary and Italy during the past season, is now at the European corn borer parasite laboratory at Hyeres, Var, France. He will remain there during the winter, and will resume his ecological studies in Hungary and southern Russia next spring.

Dr. W. R. Thompson, in charge of the European corn borer parasite laboratory at Hyeres, France, made a trip to England in the interest of his biological investigations.

M. C. Lane, in charge of the Toppenish, Wash., laboratory, left Toppenish November 24 for an extended trip to Washington. While en route

he will visit the following laboratories and institutions for conferences on his wireworm investigations: Billings, Mont., laboratory, Kansas Experiment Station, Nebraska Experiment Station, Wichita, Kans., laboratory, and the Kirkwood, Mo., laboratory.

J. R. Horton, in charge of the Wichita, Kans., laboratory was in Kansas and Missouri several days in November, going over the Hessian fly plots there.

M. M. Reeher of the Forest Grove, Oreg., laboratory, has resumed his work there after several days of absence on account of a diphtheria quarantine.

The division of Cereal and Forage Insect Investigations was honored during November by the following visitors: Dr. Wm. M. Jardine, President of the Kansas Agricultural College; Prof. J. T. Jardine, Director of the Oregon Agricultural Experiment Station; Prof. D. J. Farrell, Director of the Kansas Agricultural Experiment Station; Dr. E. C. Johnson, Director of the Washington Agricultural Experiment Station; Prof. C. W. Creel, Director of Extension of the Nevada Agricultural Experiment Station; Dr. J. M. Swaine, Associate Dominion Entomologist of Canada, and C. H. Hadley, Chairman of the Bureau of Plant Industry, Pennsylvania Department of Agriculture.

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#### BEE CULTURE INVESTIGATIONS

James I. Hambleton, Apiculturist, in Charge

J. I. Hambleton visited Johns Hopkins University on November 10.

Prof. E. N. Cory, State Entomologist of Maryland, was at the Laboratory on November 21.

On December 30 open house will be kept at the Laboratory for the benefit of those attending the meetings of the American Association for the Advancement of Science. A special exhibit will be on display, including, among other things, apparatus used in various experiments and a collection of 400 samples of extracted honey from all parts of the United States. The investigations now in progress at the Laboratory will be explained informally by those in charge.

J. I. Hambleton, A. P. Sturtevant, and W. J. Nolan are among those listed on the program for the Apicultural Section of the Association of Economic Entomologists on December 31.

At the request of beekeepers the Laboratory has taken up the question of the relative rapidity of granulation in comb-honey from various regions of the country. For this purpose samples of comb-honey from all over the United States are now being sent to this office.

### FRUIT INSECT INVESTIGATIONS

A. L. Quaintance, Senior Entomologist, in Charge

Thos. F. Catchings, of the camphor scale laboratory, visited A. & M. College, Mississippi, Nov. 15 to 18, to confer with officials of the Mississippi Plant Board and to give information concerning the camphor scale before a meeting of Plant Board Inspectors.

J. B. Gill, in charge of the pecan insect laboratory at Thomasville, Ga., spent the afternoon of November 24 in New Orleans, visiting pecan insect infestations there and conferring with workers at the camphor scale laboratory.

O. I. Scapp, in charge of the Fort Valley Ga., peach insect investigations, states that scale spraying has started in the Georgia peach belt, and from present indications at least three-fourths of the acreage will be treated with lubricating-oil emulsion this year. He also states that uniformly good results of the use of paradichlorobenzene are reported from all sections of the belt. Excellent weather conditions prevailed during the period when the chemical was applied to the trees.

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### MISCELLANEOUS INVESTIGATIONS

(Items from the National Museum, contributed by S. A. Rohwer)

A. P. Dodds, who is working for the Australian Government on cactus insects, has recently been consulting specialists in the Museum with regard to the identity of some of the insects which he has been studying in the Southwest.

Professor Brumpt, of the Medical School in Paris, has been spending some days in Washington, and while here called upon several specialists in the Division of Insects. He was especially interested in examining specimens of the hemipterous genus *Triatoma* from South America, since some members of this group are concerned in the spreading of chagas fever.

Dr. H. E. Ewing spent a week at the Museum of Comparative Zoology at Cambridge, working with Nathan Banks on types of mites. On his way back to Washington he made a visit to the American Museum of Natural History.

A consignment of Brazilian mosquitoes collected by Dr. J. Bequaert, of the Harvard Medical School, was recently received by Dr. Dyar and Mr. Shannon. It included a number of species new to the National Collection, including four new to science, one of them being a species of *Anopheles*.

In a large shipment of insects recently received from Rev. D. C. Graham, collected in the mountainous western portion of the Province of Szechuen, China, were included several boxes of Diptera, comprising the

finest lot of Oriental insects of this group ever received at the Museum. Previous shipments from Mr. Graham were invariably more or less damaged by mold while in transit across the lower and more humid portion of China. The present lot, however, came through in perfect condition, apparently because of the fact, noted in the collector's diary, that he thoroughly dried his insect collection in the oven of an American stove. Some of these flies are easily recognized as belonging to European species; others occur in the East Indies and in the direction of Australia, while some very striking forms have been hitherto entirely unknown.

Dr. J. M. Swaine, of the Canadian Department of Agriculture, during four days in Washington, spent considerable time in the Division of Insects examining bark-beetles of the genus *Ips*, and picking out specimens of the various species to be sent him for critical study. Dr. Swaine is planning an extensive revision of this economic genus and will base it on material assembled in both the Canadian and the U. S. National Museums. He is using the manuscript notes on this genus left by Dr. A. D. Hopkins, and will give credit to Dr. Hopkins wherever it is possible.

The Section of Insects recently received a good many phone calls from people who wanted to know the name of silkworm eggs. It seems that a cross-word puzzle appearing in a newspaper had prompted the requests for information. Upon looking it up in the Encyclopedia it was found that the French word "graine" apparently fits in correctly.

Dr. William M. Mann, who is in Europe in connection with work for the Federal Horticultural Board, expects to return to Washington the first week in December. While in Europe Dr. Mann had an opportunity to study in a number of the museums. He spent some time with Rev. Wasmann and other specialists on ants, and in the British Museum of Natural History.

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LIBRARY

Mabel Colcord, Librarian

NEW BOOKS

British Museum (Natural history) Department of Entomology.

The Bombyliidae of the Ethiopian region, based on material in the British museum (Natural history), by Mario Bezzi. London, 1924. 390 p. illus.

Copeland, E. B.

Rice. London, Macmillan and Company, ltd., 1924. 352 p., plates. Diseases and pests, p. 52-100, 2 col. pl.

Frolowa, S.

Die ei- und samaireifung bei Chermes strobilobium und Chermes pectinatae. Zeits. f. Zellen. und Gewebelehre Bd. 1, hft. 1, p. 29-56, illus., Apr. 17, 1924. Literaturverzeichnis, p. 56.

Halbert, J. H. Notes on Acari, with descriptions of new species. *Jour. Linn. Soc. Zool.* v. 35, no. 235, p. 363-392, pl. 20-22, Aug. 15, 1923. Bibliography, p. 390-391.

Houlbert, C., and Monnot, E. *Faune entomologique armoricaine. Coléoptères: 42. fam. Histerides (Escarbots).* Rennes, Imprimerie Oberthur, 1924. 75 p. illus. (*Travaux scientifiques de l'Université de Rennes*, v. 17, 1924.)

Perkins, R. C. L., and Swezey, O. H. The introduction into Hawaii of insects that attack lantana. *Honolulu, Hawaii*, Sept. 1924. 83 p. illus. (*Bul. Expt. Station Hawaiian Sugar Planters' Association. Entomology Ser. 16*). References to literature on lantana insects, p. 82.

Polskie Pismo entomologiczne. *Bulletin entomologique de la Pologne*, Publié par la Société polonaise des entomologistes, t. 1-3 no. 2. Lwow, 1922-24.

Rethfeldt, Christoph. Die Viviparität bei Chrysomela varians Scholler. *Zoologische Jahrbücher Abt. für Anat.* Bd. 46, hft. 2, p. 245-302. illus. Jena, 1924. Literaturverzeichnis, p. 299-302.

Schulze, Regine. Über Mycetophidiiden-larven. *Zool. Jahrbücher. Abt. f. Syst.* Bd. 48, hft. 5/6. p. 433-462 Jena, 1924. Literaturverzeichnis, p. 461-462.

Shull, A. F. Principles of animal biology... 2d ed. New York, McGraw-Hill book company, inc. 1924. 422 p. front., illus., port. maps., diagrs. (Half-title: Agricultural and biological publications, Charles V. Piper, Consulting Editor.) "References" at ends of most of the chapters.

Stammer, H. J. Die Larven der Tabaniden. *Zeits. f. Morphol. u. Ökologie der Tiere*, Bd. 1, Hft. 1, p. 121-170, pl. 3-4, Aug. 17, 1924. Verzeichnis der bisherigen Angaben über die Entwicklung der Tabaniden, p. 167-169.

Van Leeuwen, W. Contribution to the knowledge of the insect galls of Siam. *Jour. Siam Soc.*, v. 15, no. 1, p. 44-65, 1922.

Wankler, Wilhelm. Die Königen... Freiburg i. Br., Verlag von Theodor Fisher, 1924. 122 p., illus. (Armbruster, L., Bücherei für Bienen-Kunde Bd. vii - 1924.)

Williamson, E. B., and Williamson, J. H. The genus *Perilestes* (Odonata). *Ann Arbor Mich. Pub. by the University*, July 15, 1924. 38 p., 1 pl. (Mich. Univ. Museum of Zoology. Misc. Pub. 14.)

Zionist Organization Institute of Agriculture and Natural History in Agricultural Experiment Station. *Bulletin* no. 1-3. Tel Aviv, Palestine, 1924. No. 1. The Coccidae of Palestine, by D. F. S. Bodenheimer.